

REMARKS

Claims 1, 3-12, 14-22, and 29-60 are pending in this application. Claim 35 has been changed and claims 39-60 have been added by this Preliminary Amendment B. The present Preliminary Amendment B is intended to further modify the claims as presented in the previous Preliminary Amendment, filed June 5, 1995.

Claim 35 has been amended to clarify the invention claimed by Applicant. Applicant believes claims 1, 3-12, 14-22 and 29-38 are patentable over the cited art as explained in the previous preliminary amendment.

Applicant has added new claims 39-60 by this amendment. Independent claim 39 recites a system for controlling an electromechanical interface apparatus manipulated by a user. A host computer system receives an input control signal and provides a host output control signal. A processor separate from the host computer system receives the host output signal and provides a processor output control signal. An actuator receives the processor output control signal and provides a force along a degree of freedom to a user manipulable object coupled to the actuator. Lastly, a sensor detects motion of the object and outputs the input control signal. The separate processor is described in Applicant's specification on page 8, lines 21-33, and page 9, lines 1-13. The host output control signal is described on page 10, lines 19-25, and the processor control signal to actuators is described on page 11, lines 6-20 and page 13, lines 3-12. The input control signal from sensors and received by the host computer is described on page 9, lines 25-32 and page 10, lines 1-2.

Claims 40-47 are dependent on claim 39. Claim 40 recites that the processor receives the input control signal from the sensor and provides the input control signal to the host computer. This is disclosed in Figures 2A and 2B. Claim 41 recites that the processor output signal is provided in accordance with a processor subroutine, which is disclosed on page 10, lines 21-32 and page 11, lines 1-20, as well as Figures 4A and 4B. Claims 42-43 recite features disclosed with respect to Figure 1. Claim 44 recites actuators that provide a resistive force, as described on page 11, lines 19-20 and page 13, lines 22-25. The serial interface of claim 45 is disclosed on page 9, lines 25-32 and in Figures 2A and 2B. The images on the visual output device of claim 46 is disclosed on page 5, lines 8-18 and page 13, lines 18-25. The peripheral device of claim 47 is disclosed on page 8, lines 1-20.

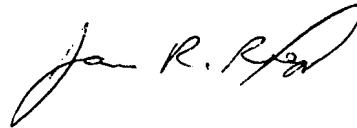
Claim 48 recites a method for interfacing motion of an object with a host computer system which includes steps substantially similar to elements of the system of Figure 39. Claims 49-52 are dependent from claim 48 and are similar to dependent claims of claim 39. Independent claim 54, and claims 55-60 which are dependent from claim 54, recite an interface device manipulated by

a user and communicating with a host computer system displaying visual images on a screen. The recited elements in claims 54-58 are substantially similar to elements of claim 39, described above. Claims 59-60 additionally recite a mechanical arm linkage mechanism coupled to the object, which is described throughout Applicant's specification.

None of the art cited by the Examiner discloses or suggests providing a processor, separate from a host computer system, which communicates with the host computer system and sends signals to actuators to provide a force on a user-manipulable object as disclosed in new claims 39-60. In addition, other features cited in dependent claims 40-47, 49-53, and 55-60 are not disclosed or suggested by the prior art. Applicant therefore believes that new claims 39-60 are patentable over the cited art.

In view of the foregoing, Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance from the Examiner. Should the Examiner have any questions concerning this matter, he is respectfully requested to call the undersigned at the number set out below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James R. Riegel", written in a cursive style.

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